

ADHERENT PLACENTA: NEW MANAGEMENT OPTIONS

G. Kayem, T. Schmitz, V. Tsatsaris, F. Goffinet and D. Cabrol

INTRODUCTION

Placenta accreta occurs when a defect of the decidua basalis results in abnormally invasive placental implantation¹. It is often diagnosed only after delivery when manual removal of the placenta has failed. Attempting forcible manual removal of a placenta accreta can easily lead to dramatic hemorrhage that may result in hysterectomy. Thus, placenta accreta and especially placenta percreta reportedly result in a maternal mortality rate of 7%, and cause intra- and post-operative morbidity associated with massive blood transfusions, infection, ureteral damage, and fistula formation². Its incidence, along with the Cesarean section rate, has increased 10-fold over the past 50 years³. With a frequency of approximately 1 per 1000 deliveries, this disorder has become more common in today's medical practice⁴.

DIAGNOSIS OF PLACENTA ACCRETA

In practice, placenta accreta is diagnosed according to clinical or histological criteria as follows⁵. If suspected before labor, prenatal diagnosis of placenta accreta is confirmed by the failure of its gentle attempted removal during the third stage of labor. If not suspected before delivery, placenta accreta can be diagnosed if manual removal of the placenta is partially or totally impossible and no cleavage plane exists between part or the entire placenta and the uterus; a heavy bleeding occurs from the implantation site after forced placental removal.

After a hysterectomy performed because of postpartum hemorrhage, placenta accreta is shown by histologic confirmation of accreta on the hysterectomy specimen.

MANAGEMENT OF ADHERENT PLACENTA

The classical approach most often recommended in cases of placenta accreta is extirpative⁴. If risk factors and prenatal imaging both strongly suggest this diagnosis, a Cesarean hysterectomy is generally planned, especially for patients who do not wish continued fertility. If the placenta accreta is discovered after delivery, the placenta is removed as soon as possible to empty the uterine cavity. In most cases, however, this forced placental delivery induces massive hemorrhage and leads to hysterectomy.

When the diagnosis of adherent placenta is not suspected before labor and a postpartum hemorrhage is obviously related to attempting forcible removal of a placenta accreta, several options are possible, dependent on the patient's wishes and the cervical situation.

If there is no wish for continued fertility or if the hemodynamic status is unstable, a hysterectomy must be performed. Otherwise, an attempt can be made to preserve the uterus using surgical (ligating hypogastric arteries) or radiological (embolization of the uterine arteries) techniques (see Chapters 30 and 32). Other methods have been published in case reports describing uterine packing, oversewing the placental bed, prostaglandin administration, direct aortic compression and argon beam coagulation in order to decrease blood loss⁶. More recently, a simple method using parallel sagittal ligatures of the lower segment has been described; it is particularly useful if the hemorrhage is located to the lower segment⁷. Other similar methods, more complex to perform, have also been described, but seem to be associated with serious side-effects (uteropyosis, synechia)⁸⁻¹⁰.

We believe these methods can be used only when the diagnosis of adherent placenta has been made after attempting forcible removal and in case of severe hemorrhage.

An alternative therapeutic approach to the placenta is conservative rather than extirpative. Some cases of successful conservative management of placenta accreta have previously been reported¹¹⁻¹⁵.

Conservative strategy was initiated in our center in 1997 and followed the successful conservative management of one case of placenta accreta, by leaving the placenta in place¹⁶. Since this date, our protocol is to manage most cases of placenta accreta conservatively, leaving *in situ* each placenta that adheres either partially or totally to the myometrium. We evaluated this management by a historical consecutive study to compare the impact of conservative and extirpative strategies for placenta accreta on maternal morbidity and mortality¹⁷.

Two consecutive periods, A and B, were compared. During period A (January 1993 to June 1997), our written protocol called for the systematic manual removal of the placenta, to leave the uterine cavity empty. In period B (July 1997 to December 2002), we changed our policy by leaving the placenta *in situ*. The following outcomes over the two periods were compared: need for blood transfusion, hysterectomy, intensive care unit admission, duration of stay in intensive care unit, and postpartum endometritis. Thirty-three cases of placenta accreta were observed among 31 921 deliveries (1.03/1000). During period B, there was a reduction in the hysterectomy rate (from 11 (84.6%) to 3 (15%); $p < 0.001$), the mean number of red blood cells transfused (3230 ± 2170 ml vs. 1560 ± 1646 ml; $p < 0.01$), and disseminated intravascular coagulation (5 (38.5%) vs. 1 (5.0%); $p = 0.02$), compared with period A. There were three cases of sepsis in period B and none in period A ($p = 0.26$). One hysterectomy was required at day 26, because of sepsis and hemorrhage, after a conservative management of an entire placenta accreta. Two women with conservative management have subsequently had successful pregnancies.

DESCRIPTION OF CONSERVATIVE MANAGEMENT

Depending on how the placenta accreta is discovered, two different types of conservative treatment can be used.

- (1) When discovered during the third stage of labor, removal of the placenta is not forced; the conservative treatment leaves the placenta, in part or entirely, in the uterus when the patient's hemodynamic status is stable and no septic risk is present.
- (2) When the placenta accreta is strongly suspected before delivery (based on history and ultrasound and/or magnetic resonance imaging suggestive of the diagnosis), the case is discussed at the daily obstetric staff meeting and conservative treatment is proposed to the patient. In this case, management includes the following steps (Figure 1). The precise position of the placenta is determined by ultrasound. A Cesarean section is planned, with the abdominal incision at the infraumbilical midline, enlarged above the umbilicus if necessary, and a vertical uterine incision at a distance from the placental insertion. After extraction of the infant, delivery of the placenta is attempted prudently, with an intravenous injection of 5 IU oxytocin and moderate cord traction. If this fails, the placenta is considered to be 'accreta'. The cord is cut at the placental insertion and the placenta left in the uterine cavity; the uterine incision is closed. Prophylactic antibiotic therapy (amoxicillin and clavulanic acid) is administered for 10 days.

FOLLOW-UP AFTER CONSERVATIVE MANAGEMENT

During the postpartum period, all patients are seen weekly until complete resorption of the placenta. Ultrasonography and clinical examination are performed to detect hemorrhage, pain or clinical signs of infection. To improve clinical follow-up and to help choose antibiotic therapy in cases of endometritis with or without sepsis, C-reactive protein and blood counts are

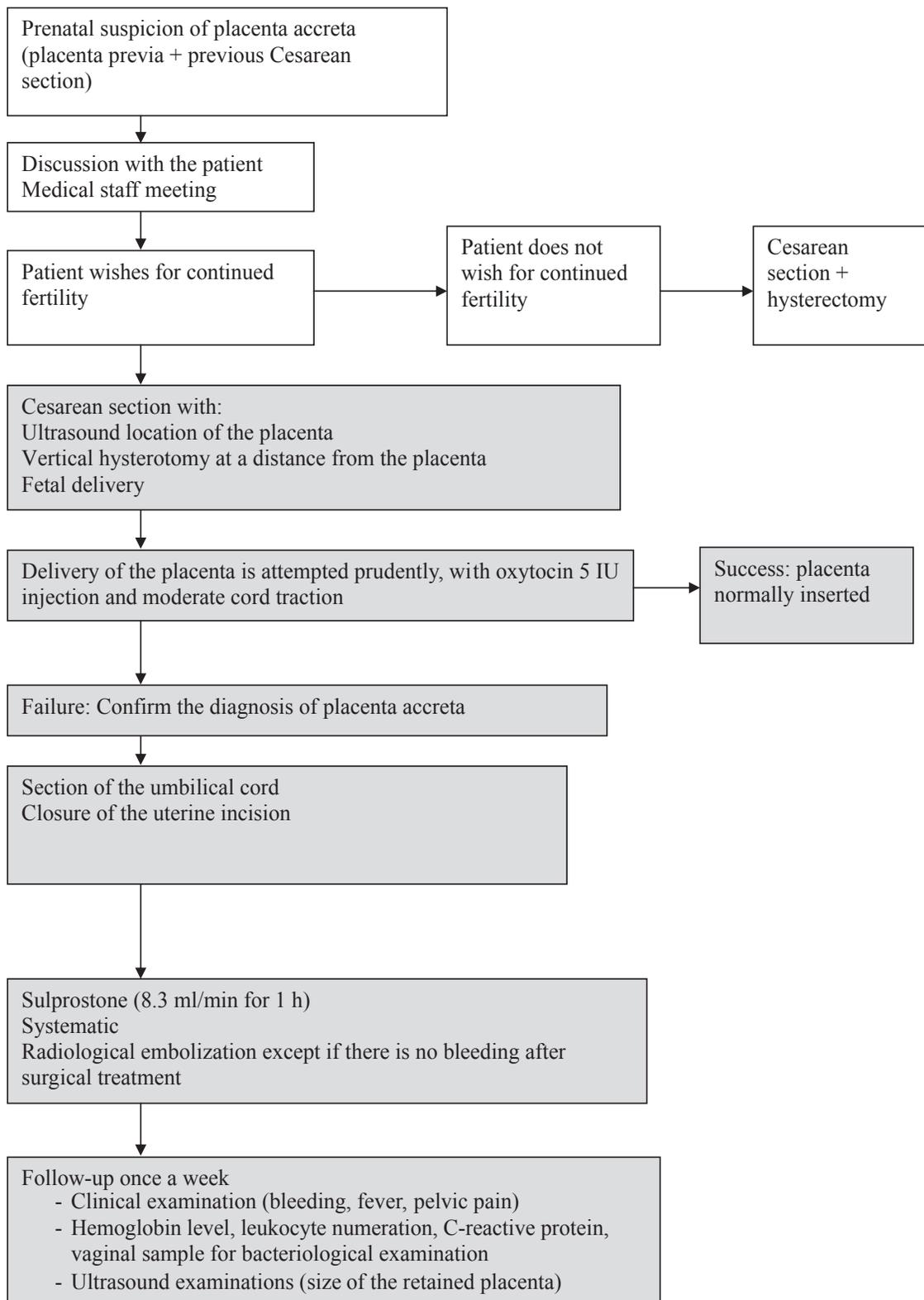


Figure 1 Conservative management of placenta accreta that is strongly suspected before delivery

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assayed and vaginal samples are taken for bacteriological study.

OPTIMAL ADJUVANT THERAPY IN CONSERVATIVE MANAGEMENT

Methotrexate, uterine artery embolization and sulprostone are three adjuvant treatments described in several case reports involving conservative treatment^{14,18-21}. The outcome when the placenta is left in place after methotrexate administration varies widely; it ranges from expulsion at 7 days to progressive resorption in roughly 6 months^{14,18-20}. We do not use methotrexate at all. Similarly, only a few reports describe the outcome after embolization and leaving the placenta *in situ*²². In our practice, we perform, almost systematically, embolization of uterine arteries to diminish or prevent a postpartum hemorrhage. Sulprostone is a well-known uterotonic agent utilized in case of postpartum hemorrhage. It can be used to prevent or treat immediate abnormal postpartum bleeding. Data do not currently prove the benefit of adding this therapy to conservative treatment; however, its utilization may contribute to the prevention of major postpartum bleeding in the 2 or 3 days after delivery.

PRENATAL IDENTIFICATION OF PLACENTA ACCRETA FOR CONSERVATIVE MANAGEMENT

Prenatal identification of placenta accreta would facilitate the choices about management of delivery and allow the appropriate precautions (reinforcement of obstetric, anesthetic and radiology teams, blood transfusion readiness). However, the sensitivity and specificity of transvaginal or transabdominal ultrasound and magnetic resonance imaging vary from 33% to 95% in different studies; they depend greatly on placenta location²³⁻²⁶. For these reasons, imaging should be considered only when placenta accreta is suspected for clinical reasons (mainly placenta previa associated with previous Cesarean section). Moreover, systematic attempts at a careful and gentle intraoperative delivery of the placenta (intravenous injection of 5 IU oxytocin and moderate contraction), even when placenta

accreta is strongly suspected before labor, should be preferable to confirm the diagnosis.

COMPLICATIONS OF CONSERVATIVE MANAGEMENT

Conservative management is a strategy that must be applied with discretion. Complications are possible and include sepsis and hemorrhage with failure of conservative management^{21,27}. In case of secondary hemorrhage and/or sepsis following a conservative management, hysterectomy may become necessary. At present, the number of patients managed with this strategy is too low for an adequate evaluation of the risk of rare severe maternal morbidity or mortality. Accordingly, this type of management is presently appropriate only when rigorous monitoring can follow, in centers with adequate equipment and resources²⁶.

Ideally, these complications should be discussed prenatally with the patient to give her complete information about the different therapeutic strategies (extirpative or conservative). Given the difficulties mentioned above for prenatal diagnosis, this discussion is rarely possible. Accordingly, one possible option is to preserve maternal fertility and to diminish the risk of hemorrhage when placenta accreta is discovered during delivery.

FERTILITY AFTER CONSERVATIVE MANAGEMENT AND RISK OF RECURRENCE

In our experience, seven patients managed conservatively were contacted from 1-5 years afterwards, whereas ten were lost to long-term follow-up. Of these seven, one had another successful pregnancy 2 years later and another had two consecutive successful pregnancies, both complicated by placenta accreta, located at the same place, and treated conservatively again. The others chose, for various personal reasons, not to become pregnant again. None sought subsequent treatment for sterility.

The possibility of recurrence should thus be discussed with the woman when deciding on the initial conservative management. Moreover, in any subsequent pregnancies following a conservative management, the risk of placenta

accreta should be monitored carefully by appropriate investigations, particularly if the placenta is located in the same site as before.

CONCLUSIONS

Conservative management of placenta accreta appears to be a safe alternative to extirpative management. However, it must be applied cautiously and should be proposed only in centers with adequate resources, and the capability of securing a strict follow-up in order to detect and treat subsequent complications.

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